A turnaround in hospice philosophy now enables patients to receive hospice services along with cancer treatment in programs called “open access” or “complex care management.” The mission remains palliation, but could include, for example, radiation to prevent fractures in a patient with bone metastases or chemotherapy to extend life long enough to make it to a child’s wedding.

See Page 14

Hospice Loosening Limits on Cancer Treatment
Oncologists and cardiologists are increasingly working together to better understand the mechanisms of cardiotoxicity, monitor cardiac function in cancer patients, treat heart failure when it occurs, and develop prevention strategies. At this year’s American College of Cardiology Annual Meeting, cardiologists from leading cancer centers discussed what can be done to minimize cardiac damage from cancer treatments.

**Monitoring Chemotherapy-Induced Heart Failure**

Cancer and heart failure are both common, especially in older age groups, so it is not surprising that they would coexist, noted Daniel Lenihan, MD, Professor of Cardiology and Director of Clinical Research at the University of Texas M. D. Anderson Cancer Center. “Cancer therapy is more effective than ever before at treating cancer, but it has a price.” For example, use of anthracyclines and trastuzumab has led to significant improvements in the survival of patients with HER2-positive breast cancer, but trastuzumab was almost taken off the market because of its potential for cardiac adverse effects. “It would have been a tremendous shame if that had occurred,” he said.

In discussing ways to monitor for cardiovascular problems with cancer therapy in general, he predicted that new cardiac problems may arise as vascular endothelial growth factor (VEGF) antagonists such as bevacizumab and small molecule TKIs are increasingly used. Such problems may be hypertensive remodeling, destruction of capillary blood flow, cardiomyopathies, and renal dysfunction from microangiopathy.

Cancer and heart failure are both common, especially in older patients. So it is not surprising that they would coexist.

The current guidelines of the American Heart Association, the American College of Cardiology, the Heart Failure Society of America, and the American Society of Clinical Oncology are not very specific for monitoring the development of heart failure, and mainly recommend obtaining a baseline LVEF measurement and retesting sometime later, he explained.

However, more than one-third of patients with heart failure have normal LVEFs, but their prognosis is still poor. “We diagnose heart failure primarily based on symptoms, and even the utility of that is in question,” he said, noting that in one study (Fonseca EK et al. JCO 2004;22: 3485-3490), physicians missed identifying dyspnea 77% of the time.

**Part 1 of this article appeared in the May 25th issue and covered trastuzumab, tyrosine kinase inhibitors, and radiation-induced heart disease.**

Biomarkers such as Troponin T and BNP may be useful indicators of heart failure but are not currently recommended in any guidelines for following cancer patients.

In a pilot study of biomarkers involving 109 patients receiving an anthracycline but with no history of heart disease, 11 patients developed cardiac events, mostly symptomatic heart failure. “The BNP [rise] preceded the event by a number of days.” Dr. Lenihan said. “If we look at the predictive value of a BNP of over 200 [pg/mL], it’s very powerful and confers a greater than 44 times risk of having a cardiac event. But as I would also point out, ejection fraction was a poor predictor of cardiac toxicity.”

Reminding cardiologists in his talk that one of the objectives of the American College of Cardiology, stated in 1951, was “to cooperate with other organizations of practitioners and scientists dealing with the same or related specialties,” Dr. Lenihan urged practitioners to reach out to their oncology colleagues with their accumulating knowledge about detecting chemotherapy-related cardiac toxicity.

**Doxorubicin-Related CHF**

Steven Colan, MD, Professor and Chief of Noninvasive Cardiology at Children’s Hospital Boston, rounded out the session with a talk on the treatment of doxorubicin (Adriamycin)-related CHF, using it as a prototype for other chemotherapy-related heart failure. He distinguished between early and late-onset heart failure, the
important,” Dr. Colan cautioned. Again, later by deterioration, and therefore, just toolic function, and almost always, dias-
reduced wall thickness, elevated wall
typically have nondilated ventricles with
dilated cardiomyopathy in that patients
cardiac failure.”
tainly accounts for the instances of late
incidence is far higher than that of conges-
ticles doxorubicin-related CHF, since the
creasingly being faced with the issue of sub-
is still an open question.
“not considered so rare,” he said it could
in adult patients. But since recovery is now
from doxorubicin congestive heart failure
ity, and there were case reports of recovery
rats, carvedilol reduced doxorubicin toxic-
dant properties, because it received a lot of
selective beta-blocker with potent antioxi-
tion of LVEF.
not yet been determined. Some evidence
supports using combinations of ACE
inhibitors and beta-blockers. Fortunately,
though, recent reports indicate that the
condition is no more refractory to therapy
than other cardiomyopathies are.

The report described a comparison of
patients who received just ACE inhibitors
alone with those receiving ACE in-
hbitors plus beta-blockers. Those receiv-
ing the combination therapy appeared to
have a better outcome, with normaliza-
ion of LVEF.

Dr. Colan mentioned carvedilol, a non-
selective beta-blocker with potent antiossi-
dant properties, because it received a lot of
press earlier this decade. When given to
rats, carvedilol reduced doxorubicin toxicity,
and there were case reports of recovery from
doxorubicin congestive heart failure in
adult patients. But since recovery is now
“not considered so rare,” he said it could
not necessarily be ascribed to carvedilol and
is still an open question.

Dr. Colan said that cardiologists are in-
creasingly being faced with the issue of sub-
dclinical doxorubicin-related CHF, since
the incidence is far higher than that of conges-
tive heart failure itself—“and almost cer-
tains accounts for the instances of late cardi-
ace.”

The manifestations are different from
dilated cardiomyopathy in that patients
typically have nondilated ventricles with
reduced wall thickness, elevated wall
stress, normal to moderately impaired sys-
tolic function, and almost always, dias-
tolic dysfunction.

“Normalization of function after com-
pletion of therapy can be followed years
later by deterioration, and therefore, just
because it’s subclinical doesn’t mean it’s not
important,” Dr. Colan cautioned. Again,

Experience at M. D. Anderson has shown that besides the usual risk factors of hyperlipidemia, diabetes, family history, obesity, and smoking, that the strongest risk factors for chemotherapy-related heart failure were prior anthracycline use and radiation to the chest.